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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,973	02/12/2002	Naoyuki Tokuda	P67090US0	3495

136 7590 02/10/2005

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EXAMINER	
NGUYEN BA, HOANG VU A	
ART UNIT	**PAPER NUMBER**
2122	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/072,973	TOKUDA ET AL.	
	Examiner	Art Unit	
	Hoang-Vu A Nguyen-Ba	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/1/02&5/7/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1 This action is responsive to the application filed February 12, 2002.

2. Claims 1-2 have been examined.

Priority

3. The priority date considered for this application is February 12, 2002.

Information Disclosure Statement

4. The Office acknowledges receipt of the Information Disclosure Statements filed on July 1, 2002 and May 7, 2003. They have been placed in the application file and the information referred to therein has been considered.

Oath/Declaration

5. The Declaration filed on February 12, 2002 is objected to because the specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602. The checked box labeled "the attached specification" is deemed not enough to identify the specification. The application serial number and filing date are required.

Drawings

6. The drawings filed on February 12, 2002 are accepted by the examiner.

Abstract

7. The abstract of the disclosure is objected to because of improper format. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, the following limitations are nowhere found described in the specification:

setting a probability of nonassigned words having a given tag as 0;

obtaining a plurality of grammar trees.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the input sentence" in lines 6 and 7. There is insufficient antecedent basis for this limitation in the claim. For art rejection purposes, this limitation is interpreted as – the keyed-in sentence --.

Claim 2 recites the limitation "the parsed tree" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the relevant tree" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claim 1 is rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter.

Statutory subject matter requires two things:

(1) it must be in the "useful arts," U.S. Const., art. I, § 8, cl. 8, which is equivalent to the modern "industrial" or "technological arts," defined by Congress in the four categories of "process, machine, manufacture, or composition of matter" in 35 USC § 101; and if it is,

(2) it must not fall within one of the exceptions for "laws of nature, physical phenomena and abstract ideas."

Under the most recent Federal Circuit cases, transformation of data by a machine (e.g., computer) is statutory subject matter provided the claims recite a "practical application, which produce[s] a useful, concrete and tangible result." State St. Bank & Trust Co. v. Signature Fin. Group, Inc. 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600-01 (Fed. Cir. 1998).

In this instance, the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a useful, concrete and tangible result to form the basis of statutory subject matter under 35 USC § 101.

Furthermore, the Office's interpretation of this claim is that it does not expressly or implicitly require performance of any of the steps by a machine such as a general-purpose digital computer. Structure will not be read into the claims for the purpose of the statutory subject matter analysis even though the steps might be capable of being performed by a machine.

On this basis, claim 1 is rejected under 35 USC § 101 as being directed to nonstatutory subject matter.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine-Grishman, "A Corpus-based Probabilistic Grammar with Only Two Non Patent Literature Search:-terminals," 1996.

Claim 1

Sekine-Grishman discloses at least:

preassigning words and phrases of an input sentence with part-of-speech tags (see at least paragraph "An "Ultimate Parser" : parsing by look-up);

regarding any phrase preassigned with a part-of-speech tag as one word (see at least paragraph Minor modification at pages 219-220);

obtaining a plurality of grammar trees (see at least Figure 1 at page 219; note that the claimed plurality of trees is interpreted to mean a plurality of subtrees);

finding a combination within said plurality of grammar trees to maximize probability of the final grammar tree being any of a grammar tree with the following formula to choose the one with the largest probability P_{tree} *:*

$$P_{tree}(T) = \Pi_{rule_i \text{ in } T} P_{rule_i} \bullet \Pi_{tag_j \text{ of word } j \text{ in } T} (P(tag_j / word_j))^2$$

where $P_{rule\,I}$ *denotes the probability of a rule to take on rule*$_i$*,* $P(tag_j / word_j)$ *is the probability of the word*$_j$ *being assigned to part-of-speech tag be tag*$_j$ (see formula (3) at page 220).

Sekine-Grishman teaches calculating tag probability (see paragraph "Tagging" at page 220). Sekine-Grishman does not specifically disclose:

setting a probability of preassigned words having a given tag as 1; and

setting a probability of nonassigned words having a given tag as 0.

However, Sekine-Grishman could be modified to set the formula (1) in the paragraph "Tagging" to 1 or 0 according to whether the word is a preassigned one or a nonassigned one. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Sekine-Grishman as discussed because this would simplify the parsing process.

Claim 2

Sekine-Grishman discloses at least:

finding a best matched path having a highest similarity value with the keyed-in sentence, providing lexical error information, feedback information as well as a score of the keyed-in sentence (see at least paragraph "An 'Ultimate parser' : parsing by look-up" and "Compromise" at pages 217-218);

according to the error feedback information, finding a correct path in the template (see paragraphs 2-4);

applying the POST parser to obtain a syntactically bracketed grammar structure for the correct path (see at least paragraph "An 'Ultimate parser' : parsing by look-up" at page 217); and

drawing the parsed tree of the correct path and marking the errors at leaves of the relevant tree (see at least Figure 1 at page 219).

Sekine-Grishman does not specifically disclose:

reading a keyed-in sentence; and

checking the sentence with a standard spell check model, and correcting spelling

errors.

However, reading a keyed-in sentence is deemed inherent to Sekine-Grishman teachings because without an input the parser would have no data to process. Further, although Sekine-Grishman does not specifically disclose a standard spelling check module, this standard module could be added to Sekine-Grishman' s parser for the purpose of correcting spelling errors, which would improve the accuracy of the grammar analysis.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a standard spell check module to the Sekine-Grishman' s parser for the purpose discussed above.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hoang-Vu A Nguyen-Ba whose telephone number is(571) 272-3701. The examiner can normally be reached on Tuesday-Friday, 6:00 – 16:30.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Tuan Dam can be reached at (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANTONY NGUYEN-BA
PRIMARY EXAMINER
Art Unit 2122
February 3, 2005